INTERNATIONAL BULLETIN OF PLANT PROTECTION

1933 No. 4

DISCOVERIES AND CURRENT EVENTS *

French North Africa: Desert Locust (*Schistocerca gregaria*) (1).

ALGERIA.

1 February 1933 — A large swarm coming from the S. E. passed between Brézina and Sidi el Hadj (80 km S. of Géryville) flying N.
A swarm coming from the W. settled 40 km S. E. of Brézina (Géryville) and departed flying E.

3 » » — A very large red swarm coming from the S. W. settled at Sfissifa (Aïn Sefra).
A large red swarm passed 5 km S. of Ghardaïa over the El-Goléa track flying E. S. E.

4 » » — Two very large red swarms coming from the W. passed Aïn Sefra flying E. Part settled at the Dunes.

5 » » — A large swarm settled in the region of Taoussera, Haddjerat Toual, Mokta Déli, Souiga (Méchéria). Flew away again on 6 February towards the N. E.

6 » » — A very large red and yellow swarm coming from the S. E. settled at Metlili (Ghardaïa). Departed on the morning of the 7th flying N. W.
A very large swarm coming from the W. passed at 9 a. m. over the region of Naama (30 km S. of Méchéria) flying N. E.
A large swarm coming from the N. W. passed at 3 p. m. over El Magroussa, 16 km from the station of Mokta Déli (Méchéria), flying E.
A red swarm 4 km in length coming from the W. settled at Ksour Arbaouat (60 km S. W. of Géryville). Flew away again on the morning of the 7th towards the E.

7 » » — A large red and yellow swarm coming from the S. settled at Metlili at 6 p. m. (30 km S. of Ghardaïa). Departed on the 8th in the morning, flying N.
A very large red and yellow swarm coming from the W. settled in the Oued Sebseb (45 km S. of Ghardaïa).

* Under this and the next heading the countries are arranged in French alphabetical order.

(1) Communication from the Government General of Algeria (Direction des Services Economiques) to the International Institute of Agriculture.

7 February 1933 — A large pink swarm coming from the E. passed Taghit (Colomb-Béchar) at 1 p. m. flying W.

11 » » — A relatively large red and yellow swarm passed Ghardaïa flying N.

A very large red swarm coming from the S. W. passed Naama (Aïn Sefra) at mid-day, then Oued Kerba, flying N. N. E.

A large red swarm coming from the S. S. E. settled at 5 p. m. 15 km from Bouktoub (95 km N. W. of Géryville). Departed on 12 February at 9 a. m. flying N. N. E.

12 » » — A large red swarm coming from the E. settled between El Berd, Zaouïet Riab and El Arfiane (Touggourt). Flew away again in the morning of the 13th towards the S. E.

13 » » — A very large red and yellow swarm coming from the W. settled in the afternoon at Hassi Bounouara (15 km N. W. of Ghardaïa). Copulation. Laying reported from the 17th.

A large pink swarm coming from the S. W. settled at 4 p. m. in the Chott Chergui, 3 km S. E. of the Kreider (Saïda), covering 1000 hectares.

A large red swarm coming from the S. settled at Témacine Tamelrat (Touggourt). Departed again on the 14th flying W.

A pink swarm of 1 × 4 km coming from Morocco settled in the douar Beni bou Saïd (Marnia). Departed on the 15th flying towards the Beni bou Hamidève (Morocco, S. of Oudjda).

14 » » — A swarm passed Garet Chouf (25 km N. E. of Ouargla).

A small red swarm coming from the W. (from Sidi Boubekeur, Morocco, and Beni bou Saïd) settled towards mid-day in the region of Missiouen, near Marabout de Sidi Abdallah, and at Ghabet Fradsa, douar Ouled Nehar Gheraba, 70 km from Sebdou. Departed on the 15th flying towards Beni bou Saïd.

A very large swarm (50 sq. km) coming from the S. W. settled in the evening at El Remel (45 km S. S. E. of Laghouat. Destroyed by rain and frost.

15 » » — A large pink swarm reported at Kralfallah (Saïda) departed flying E. and settled on 19 February in the region of Tafraoua (Saïda).

A sparse red swarm coming from the W. (from Mehaïa, Morocco) settled at 3 p. m. at Sidi Abdallah, douar Ouled Nehar Gheraba (Sebdou).

A large swarm coming from the S. E. settled in the E. and N. of the Oasis of El Oued and flew away towards the N. E.

15 February 1933 — Laying reported at Hassi Klabia (100 km N. E. of El Oued).

16 » » — A rather large pink swarm coming from the S. W. settled in the region of Hassi Guernina, Timbrahim and between Bouktoub and the Kreider (Saïda).

18 » » — A medium-sized red and yellow swarm covering 1 km × 400 m reported in the Oued Ourirlon (18 km N. E. of Ghardaïa). Copulation.

A small swarm reported in the Oued Nimel (14 km N. E. of Ghardaïa).

A small swarm reported in the ravine of Zouil (10 km N. E. of Ghardaïa.

A small red and yellow swarm coming from the W. settled at Ouled Chalaf (18 km N. W. of Metlili, Ghardaïa) and laid scattered eggs over 10 × 4 km. Departed on 20 February towards the N.

A swarm of 3 × 4 km passed Tadjerouna (100 km S. of Aflou flying E.

19 » » — A large yellow swarm coming from the W. passed at 2 p. m. 4 km N. W. of Ghardaïa, flying E. carried by a strong wind.

A large red and yellow swarm coming from the W. settled at Dekhalet Brahini (35 km S. S. E. of Ghardaïa) and laid sparsely over 4 × 2 km. Departed again on 21st flying N.

20 » » — From the 20th to the 22nd large swarms settled at Bir Boutina, Djerch, Djerara, Chott el Ghela and Bir Bousbia of the douar Negrine Ferkane (Tébessa). Some copulation. Flew S. with a strong N. wind.

A large swarm settled in the region of El Feidh, S. of Zeribet El Oued (Biskra). Part departed on the 21st flying E.

21 » » — A small red and yellow swarm settled 2 km N. W. of the Ksar de Metlili (30 km S. S. W. of Ghardaïa). Flew away N. on the 22nd.

22 » » — A large red swarm (7 to 8 km) coming from the S. W. settled in the night at Kilane and Ras Laanag (32 km E. of Laghouat). Departed on the 23nd flying S. E.

A small swarm formed partly of the locusts reported on 13 February at Hassi Nounouara settled at 1 p. m. at Loubira (6 km N. W. of Ghardaïa). Copulation.

26 » » — A large red and yellow swarm coming from the N. settled at El Berd, Caïda de Djamaa (Touggourt) and laid. Departed on the 27th flying E.

A somewhat large red and yellow swarm coming from the S. settled at 4 p. m. at El Atteuf (10 km E. S. E.

of Ghardaïa). Departed on the 27th at 10 a. m. towards the W.

26 February 1933 — A small swarm passed at 4 p. m. over the douar of Touririne (Montagnac) flying W. (Morocco).

27 » » — Laying reported at various points 25 km S. of Négrine over about 3000 hectares.

28 » » — Laying since 16 February reported at Aïn Sahan Haoud Haran, Haoud Lazergue, Oued en N'sa (70 km N. of Ouargla).

A certain amount of laying recorded 3 km N. N. W. of the Daïa ben Dahoua (13 km N. N. W. of Ghardaïa).

TUNISIA.

1 February 1933 — A small red swarm coming from the W. passed Bir ben Grira (49 km S. of Kebili) flying E.

3 » » — A large swarm settled at 6 p. m. 32 km S. E. of Nefta on the Algerian frontier.

5 » » — A red swarm coming from the W. settled at 6 p. m. at Narklet Mengout (57 km S. E. of Tozeur). Departed on 10 February at 7.30 a. m. flying S. E.

8 » » — A dark red and yellow swarm coming from the W. settled at 3 p. m. at Bir Souameck (40 km. E. of Tozeur). Copulation. Laying began on 10 February.

9 » » — A dark red swarm 4 km in length coming from the W. settled at the Oued Bréga on the track from Remada (62 km S. of Tataouine). Flew away towards the E.

12 » » — A swarm reported on the 9th at the Oued Bréga passed Kzeczem El Kelb (50 km S. of Tataouine) flying towards the territory of Ben Gardane.

13 » » — A sparse swarm of 400 × 500 m coming from the S. W. passed Cheikkat Oulad Mahdi (30 km S. W. of Médenine) flying N. E.

14 » » — A yellow swarm coming from the N. passed Sidi Toui (50 km S. of Ben Gardabe) flying S.

15 » » — A large swarm coming from the N. W. passed Oued Es Sedar (50 km E. S. E. of Médenine) flying S. E.

16 » » — A small swarm coming from the S. E. reported at Médenine.

MOROCCO.

2 February 1933 — A swarm settled in the evening at Damar Tansoult (80 km E. of Marrakech). Departed on the 3rd flying N. W

A sparse swarm coming from the S. reported in the upper valley of the R'dat, passed on the 3rd over Enzel (Marrakech).

3 February 1533. — A large red swarm, 25 × 15 km, coming from the S. passed between Oglat Mengoub and Oglat Chebkat Berguent flying E.

A large swarm coming from the W. settled at Gourrama at Toulal. Flew away again on the 4th towards the N. W. (in the direction of Aït Mesrouh).

A large swarm of 10 × 15 km coming from the W. settled at 11 a. m. at the Zaoura de Talsint. Departed at 1 p. m. flying E. N. E.

6 » » — A yellow swarm, 4 × 3 km, settled on the Ida ou Kazou (E. of Tamanar).

7 » » — A swarm reported on 3 February at Berguent separated into two parts, one of which settled in the region of Tiouli (near Debdou) and the other flew E. (towards Sebdou and Mecheria, Algeria).

A pink swarm, 2 × 1.5 km, settled in the evening to the S. of Demnat.

9 » » — A pink swarm, 4 × 2 km, coming from the S. E. settled at Derb bel Bachir (S. of Chichaoua).

A large pink swarm of 12 × 6 km passed at 3 p. m. 10 km S. of El Aïoun (region of Oudjda) flying W., then settled in the evening near El Oglat (N. of Taucherfi). Departed on 10 February at 10 a. m. flying W.

10 » » — A yellow swarm, 2 × 2 km, coming from the S. settled on the Ida ou Bouzia at Tidli (E. of Tamanar). Flew away again on the 11th towards the N. (direction of Aït Zeltem).

A large swarm coming from the S. W. settled in the evening at Taucherfi and around El Aïoun (region of Oudjda). Departed on the 11th at 2 p. m. flying N. E.

11 » » — A pink swarm 2 km in length passed Hassi Bhraim (S. of Igherm) flying N.

A pink swarm settled at Tillouguit Naït Izza (region of Tadla) ; flew away N. up the Assif Nelloul.

12 » » — A pink swarm, 2 km × 400 m, coming from the E. settled on Amougueur (region of the frontiers) in the night.

13 » » — A swarm reported on the 7th as flying towards Sebdou split into two parts, one of which flew in the direction of El Aricha (Algeria) and the other settled near Martimprey, 20 km from the Algeria-Morocco frontier.

14 » » — A pink swarm of 3 km, coming from the E., settled on the division of Bessara (S. E. of Berkane). Departed on the 15th flying S. E.

A pink swarm coming from the S. settled S. of Demnat (region of Marrakech).

15 February 1933 — A pink swarm 15 × 4 km settled at Bouhouria (S. of Berkane) and then flew S. E.

22 » » — A small red swarm settled on Aït Taguella (region of Marrakech), then flew away and passed above Azilal flying N.

28 » » — A red swarm, 20 × 1 km, coming from the S. E. settled at 4 p. m. near Bouhouria (35 km W. of Oudjda). Departed on 1 March about 2 p. m. and settled, part in the direction of Naima, and part towards Oudjda.

French West Africa: Desert Locust (*Schistocerca gregaria*) in Senegal (1).

21 January 1933 — A pink swarm coming from the N. E. passed over Kébémir (Circle of Louga) at 16° 27' Long. W. and 15° 23' N. flying S. W. carried by a N. E. wind.

England and Wales: New and Interesting Phytopathological Records for the Year 1932 (2).

(a) Fungi parasitic on cultivated plants recognised in England and Wales during the year 1932 and believed not to have been recorded there previously :—

Olpidium Agrostidis Sampson (sp. nov.), parasitising the roots of *Agrostis stolonifera*.

Uredo Fuchsiae Arth. & Holw. First observed on leaves of garden Fuchsia (var. ' Golden Treasure ') in a nursery glass-house in Cardiff in January. Seen also in April at Swansea. This Rust appears to have been recorded previously only from Guatemala. It strongly resembles *Pucciniastrum Circaeae*, which is rather common in Britain, in its uredo-stage, on *C. intermedia* and *C. lutetiana*.

Diaporthe umbrina Jenkins. Causing ' Brown Canker ' of roses.

Sphaceloma Rosarum (Pass.) Jenkins, on roses.

Ceratophorum setosum Kirchn. Causing losses in garden Lupins, especially *L. cytisoides*.

(b) New Virus Diseases.

The presence of the so-called ' Spotted Wilt ' disease of tomatoes was definitely detected in 1932, whilst three new virus diseases of Hyoscyamus were discovered and described by M. A. Hamilton. A probable Virus disease of Zonal Pelargoniums was also recorded and described.

(c) Miscellaneous.

Gibberella Saubinetii (Mont.) Sacc. was noted for the first time naturally occurring on wheat in England in 1932.

(1) Communication from the Government General of Algeria (Direction des Services Economiques) to the International Institute of Agriculture.

(2) Communication from the Ministry of Agriculture and Fisheries, London, official correspondent of the Institute.

As a result of the prompt measures taken to eradicate the Rust on Dewberry plants (*Kunkelia nitens* [Schw.] Arth.) imported from the U. S. A. and referred to in a previous communication [see this *Bulletin*, 1932, No. 2, p. 21], the disease did not reappear in 1932.

Egypt: Locust Report (1).

(1) No further information was received about locusts observed in January 1933 at Gilf Kebir in the Lybian Desert [see this *Bulletin*, 1933, No. 3, p. 53].

Large numbers of green locusts, most probably of *Locusta*, were reported early this month from a place about 100 kilometres west of Owenat, Lat. 21° 35' Long. 25°.

(2) By the middle of February the trip to Gebel Elba in the South Eastern Desert, referred to in last month's report [see this *Bulletin*, 1933, No. 3, p. 53] was accomplished. Only a few specimens of *Schistocerca gregaria* of the solitary phase were met with, although the wadis running in some parts of the country and especially round Elba were found to be green with vegetation and form suitable breeding places.

(3) On February 27th reports were received from both Palestine and Sinai Governorate that big swarms of locusts were oberved at Haikl in the Hedjaz near the Gulf of Akaba moving towards Transjordania.

Eritrea: Tropical Migratory Locust (*Locusta migratoria migratorioides*) (2).

During January and February 1933 no swarms of the tropical migratory locust made their appearance in the Colony.

India: New Diseases reported during the Year 1932 (3).

Pusa (Dr. W. McRae, Imperial Mycologist, Imperial Institute of Agricultural Research).

Saccharum officinarum....	*Rhizoctonia bataticola* (Taub.) Bult.
	Phytomonas rubrilineans Lee et al. (Red stripe leaf disease).
Panicum trypheron.....	*Sclerospora* sp.
Nicotiana tabacum.....	*Alternaria* sp.
	Sclerotinia sp.
Hibiscus sabdariffa.....	*Fusarium* sp.

(1) Communication from the Chief Plant Pathologist, Plant Protection Section, Ministry of Agriculture, Giza, Egypt to the International Institute of Agriculture.

(2) Communication from the official correspondent of the Institute, Dr. Rolando Guidotti, Head of the Agricultural Office of Eritrea, transmitted by the Government of the Colony.

(3) Communication from the official correspondent of the Institute, Mr. W. McRae, M. A., D. Sc., F. L. S., Imperial Mycologist, Imperial Institute of Agricultural Research, Pusa, Bihar, India.

Bombay Presidency (Reported by Dr. B. N. Uppal, Plant Pathologist).

Ficus benghalensis.....	*Uredo fici* (*Cerotelium fici* [Cast.] Arth.).
Helianthus annuus	*Puccinia helianthi* Schwr.
Gossypium herbaceum	*Sclerotium rolfsii*.
Paspalum scrobiculatum...	*Striga* sp.

A race of bacteriophage specific against *Pseudomonas citri* Hasse has been isolated from leaves of citrus affected by citrus canker.

Bengal (Reported by Mr. G. Sharngapani, Economic Botanist).

A disease of Cardamom (*Amomum subulatum*) from Darjeeling is reported. The bud at the top becomes twisted. The plant gives fruits in the first year but in the second year it becomes bunchy from the rhizome and flowers but no fruits are produced. Later on the inflorescence along with the rhizome become blackened. A species of *Rhizoctonia* was isolated.

Borada State (Reported by Mr. Sane).

Pennisetum typhoideum....	*Teichospora* sp.

Cinnamara (Reported by Mr. A. C. Tunstall, Mycologist, Indian Tea Association).

The *Colletotrichum* present on the tea branches differs from that found on the leaves. The *Glomerella* form of the fungus both in the field and in culture also differs from that associated with *Colletotrichum camelliae*. The branch-form of *Colletotrichum* and *Glomerella* has not yet been observed on the leaves but the leaf-form is occasionally found on the branches.

Lahore (Reported by Dr. H. H. Choudhuri, Professor of Botany, Punjab University).

Diseases of Pomegranates (*Punica granatum*) caused by *Pyrenochaeta* sp. and *Amphichaeta* sp. have been observed, the former on mature plants and the latter on nursery plants.

Reversion to leaf forms in inflorescences of cocoanut received from Travancore was noticed. Trees once showing reversion, never more produce fruits.

Calcutta (Reported by Dr. S. S. Bose, Professor of Botany, Carmichael Medical College).

Polyporus ostreiformis Berk. has been observed on Areca palm, apparently causing much damage in Calcutta.

Southern Rhodesia: Second Locust Invasion 1932 (1).

1. *Nomadacris septemfasciata*.

Swarms of the red locust commenced to invade Southern Rhodesia late in November 1932, the first report being from Matetsi in the Wankie District on 29th. It is not known whether the first swarms came from the Bechuanaland

(1) Communication from the official correspondent of the Institute, Mr. R. W. Jack, F. E. S., Chief Entomologist, Department of Agriculture, Salisbury, Southern Rhodesia.

Protectorate or from Northern Rhodesia, but some later swarms are known to have come from the north. From early reports received the general trend of direction appeared to be S.E. to S.W. but it soon became evident that the swarms were circling. Early in the month further swarms crossed from the north into the Lomagundi District, and on 12th a swarm, believed to have come from Portuguese territory, appeared in the Inyanga District. It seems likely that swarms entered the colony along the whole northern boundary, and possibly the northern sections of the eastern and western boundaries.

Towards the end of the month egg-laying became fairly general throughout the colony. The districts invaded, egg-laying being reported where stated, are as follows:— Wankie (eggs), Nyamandhlovu (eggs), Bulalima-Mangwe (eggs), Matobo, Bulawayo, Umzingwane, Insiza (eggs), Belingwe (eggs), Gwanda, Chibi (eggs), Victoria, Selukwe, Gwelo (eggs), Bubi, Sebungwe, Hartley (eggs), Lomagundi (eggs), Mazoe (eggs) Salisbury (eggs), Mrewa, Mtoko, Inyanga, Makoni, Marandellas (eggs), Charter (eggs), Bikita (eggs), Ndanga (eggs).

No hoppers of this species were reported during the month.

2. *Locusta migratoria migratorioides.*

A few swarms of the tropical migratory locust invaded the Darwin District from the north apparently late in November 1932, although the first report was made on 4th December. Egg-laying commenced at once and hoppers appeared in the Zambesi Valley on 15th. Specimens of fliers from a few swarms from the Mazoe District, mainly red locusts, included specimens of migratory locusts.

It has been difficult to trace the tropical migratory locust, as it has been to some extent confused with the red species. Specimens have been received from the district of Darwin, Mazoe, Mrewa, and Gwelo, and it is suspected that the species is present in Hartley and Mtoko. Hoppers have appeared in Darwin, Mazoe, and Mrewa. A number of hopper swarms have been successfully dealt with by farmers and by the Government. Beating with brushwood is stated to have proved successful in the Mazoe District where eggs have hatched on cultivated lands.

3. Damage.

Thousands of acres of maize have been severely damaged by the fliers, but, probably owing to the cloudy weather, most of the crops are apparently recovering.

4. Locust Campaign.

The Government has organised a campaign for the destruction of hoppers and is responsible for hoppers on crown lands and in native reserves. In settled areas the owners are responsible for the destruction of hoppers, free poison being issued, and pumps being loaned to those responsible.

Tripolitania : Invasion of Desert Locust (*Schistocerca gregaria*) (1).

On 23 February 1933 a swarm covering about a kilometre and coming from the S. was observed in the vicinity of El Hoblia in the territory of the western zone ; it settled but caused no damage. A further swarm was reported in the territory of Nalut.

The invasion of desert locust coming from southern Tunisia, and arriving at first in isolated swarms, extended over the whole of the western territory, with particular intensity in the south-western region. Numbers of dense swarms were reported at Zuara, Giosc, Nalut, Giado, Agelat and Sorman. The direction of flight was always from S. W. to N. E. The largest swarm, which was reported on 4 March 1933 to the S. E. of Sorman, had a front of 2 km and a length of 15 km. Up to the present damage has been in isolated places and not serious, except in the locality of El Berga where the grain crops were attacked. The zones of the European plantations have so far escaped.

Control by capture and destruction of adults has been started everywhere in collaboration with the natives of the territories affected.

The natives have begun to use the locust on a large scale for food and in certain localities locusts have fetched higher prices than barley.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

France. — By Ministerial Decree of 5 January 1933 the following establishments dependent on the Agricultural Research Institute become centres of phytopathological research:—

(1) North region. — Central Station of Plant Pathology, Versailles ;

(2) East region. — Station for Plant Improvement and Pathology, Colmar ;

(3) South-east region. — Agricultural Zoological Station, Saint-Genis-Laval (Rhone) ;

(4) Mediterranean region. — Station for Botany and Plant Pathology, Antibes ;

(5) Central region. — Station for Improvement of Main-Crop Plants, Clermont Ferrand;

(6) South-west region. — Agricultural Zoological Station, Bordeaux ;

(7) West region. — Station for Plant Improvement and Pathology, Rennes. (*Journal Officiel de la République Française*, Paris, 6 janvier 1933, LXV^{ème} année, n^{o} 5, p. 195).

*** By Decree of 21 January 1933 relating to the importation of plant products, the Decree of 14 October 1932 [see this *Bulletin*, 1932, No. 12, p. 206] is modified to the effect that modifications of the measures contained in article 1 of the Decrees of 18 April and 23 May 1932 may be granted as an

(1) Communication from the Government of Tripolitania, transmitted to the International Institute of Agriculture by the Italian Ministry of the Colonies.

exceptional and temporary measure by Decree of the Minister of Agriculture. (Ministère de l'Agriculture. Direction de l'Agriculture. *Bulletin de l'Office de Renseignements Agricoles*, Paris, 1er février 1933, année 1933, nº 3, p. 50).

*** By Ministerial Decree of 1 February 1933 the use of zinc phosphide for the destruction of mole crickets [*Gryllotalpa gryllotalpa* (*vulgaris*)] is authorised on the following conditions within the infested zones which are delimited by the Minister of Agriculture.

The distruction of mole crickets by means of zinc phosphide will be organised in each Department by Prefectorial Decree.

It will be carried out under the supervision of the mayor or his deputy by the Crop Protection Syndicate in accordance with the instructions given by the Plant Protection Service.

The preparation of the poisoned bait will be supervised by the Service for Inspection of Chemists, and will be carried out by the chemists in the conditions fixed in Art. 12 of the Decree of 14 September 1916.

The chemists may have the bait prepared under their control in the premises belonging to the Crop Protection Syndicates.

In such cases the Syndicates' orders for zinc phosphide must be endorsed by the chemists responsible for the preparation of poisoned bait.

Chemists and other persons are forbidden to sell to private individuals packets containing zinc phosphide and the substances required in the preparation of poisoned bait. (*Journal Officiel de la République Française*, Paris, 5 février 1933, LXVème année, nº 31, p. 1244-1245).

Guadeloupe. — By Decree of the Governor of Guadeloupe and its Dependencies, dated 19 July 1932, has been promulgated in the Colony the Decree of 8 March 1932 [see this *Bulletin*, 1932, No. 4, p. 57] forbidding the entry and transit of plants, plant parts and fruits capable of introducing into France the San José scale (*Aspidiotus perniciosus*). (*Journal Officiel de la Guadeloupe*, Basse-Terre, 28 juillet 1932, nº 35, p. 536-537).

Italy. — By Ministerial Decrees of 10, 14, 18 and 20 February 1933 obligatory provincial Consortiums (Syndicates) for the protection of the hemp crop have been formed in the provinces of Rovigo, Bologna, Ferrara, Naples, Cuneo, Modena and Turin. One of the responsibilities of the Syndicates will be the organisation of the control of diseases of hemp. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 24 febbraio 1933, anno 74º, n. 46, pp. 803-804 ; 25 febbraio 1933, n. 47, pp. 822-823; 6 marzo 1933, n. 54, pp. 929-930 ; 10 marzo 1933, n. 58, pp. 1001-1002 ; 13 marzo 1933, n. 60, pp. 1035-1036; 18 marzo 1933, n. 65, p. 1131).

*** By Ministerial Decree of 28 February 1933 the Communes of San Paolo Matese and Boiano in the province of Campobasso have been declared infected with grape phylloxera. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 17 marzo 1933, anno 74º, n. 64, p. 1107).

*** By Ministerial Decree of 8 March 1933 the control of the 'wheat bugs' (*Aelia acuminata*, *A. rostrata* and *Eurygaster maura*) has been made compulsory in the provinces of Verona, Mantua and Brescia and must be effected by collecting the insects by the hand appliances already in use.

The work of collecting the insects must be carried out by the persons farming the infested land at their own expense (1).

*** By Ministerial Decree of 15 March 1932 the control of cockchafers (*Melolontha melolontha*) has been made compulsory in the province of Belluno and must be effected by collecting the adult insects when they appear in spring.

The work of collecting the cockchafers must be carried out by the persons concerned at their own expense (1).

Morocco (French Zone). By Decree of the Director General of Agriculture, Commerce and Land Settlement, dated 27 December 1932, all sellers of coal tar oils, emulsions of such oils, or products containing coal tar derivatives, which are intended for use in the control of plant parasites must show on the delivery note or invoice, on the wrappings, containers or packing material, and on the advertisements, circulars, posters and price lists : —

(1) the indication that the product is a coal tar derivative ;

(2) the indication of the content of the product in anthracene oil and its total content (expressed in centimetres per 100 c.c.) in phenols (carbolic acid and higher derivatives).

Anthracene oil is considered in the present text as being the product obtained by distillation of coal tar between the temperatures of 270° and 400° C.

When coal tar oils, emulsions of such oils or products containing coal tar derivatives can be used on plants only in the dormant season, the wrappings, containers, packing materials, posters, advertisements and price lists must clearly indicate the fact in letters at least half a centimetre in height.

The indication must be in the French language and must appear on both the delivery note and the invoice. (Empire Chérifien. Protectorat de la République Française au Maroc. *Bulletin Officiel*, Rabat, 6 janvier 1933, XXII[ème] année, n° 1054, p. 12-13).

*** A Decree of the Director of Waters and Forests, dated 29 December 1932, provides for the destruction of rabbits in certain zones of the 'Annexe' of Tedders ('Contrôle' of Zemmour) by any means except fire.

Rabbits killed under this Decree may not be transported, hawked or exposed for sale in any place whatever.

The present Decree will remain effective until 2 September 1933. (*Ibid.*, p. 13).

(1) Communication from the Ministry of Agriculture and Forests to the International Institute of Agriculture.

*** A Decree of 3 January 1933 contains additions to that of 12 June 1931 [see this *Bulletin*, 1931, No. 9, p. 167] regulating the application to copper compounds of the Vizirial Decree of 10 June 1931 [*Ibid.*, p. 167] concerning the trade in insecticides and fungicides.

All sellers of copper salts or other copper compounds or preparations with a copper basis, must show on the delivery note or invoice, on the wrappings, containers, or packing material, and on the advertisements, bills or price lists, the content in copper of the product sold and its chemical nature (copper acetate, copper chloride, Bordeaux mixture, colloidal copper, etc.). For copper compounds intended to be utilised in the form of powder, it is necessary also to indicate the degree of fineness of the powder 'expressed in terms of the French standard (mesh)' (Empire Chérifien. Protectorat de la République Française au Maroc. *Bulletin Officiel*, Rabat, 13 janvier 1933, XXII[ème] année, nº 1055, p. 36).

*** By Decree of the Director of Waters and Forests, dated 25 January 1933, owners or holders of land within certain zones of the Circle of Loukkos (Ouezzan) are authorised until 2 September 1933 to destroy on their land, by any means except fire, rabbits which are causing damage to their crops. (Empire Chérifien. Protectorat de la République Française au Maroc. *Bulletin Officiel*, Rabat, 3 février 1933, XXII[ème] année, nº 1058, p. 96).

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NOTES

New Official Correspondents. — The French Government has appointed as official correspondents of the International Institute of Agriculture for questions relating to plant protection, Professor Paul MARCHAL, Director of the Central Entomological Station of Paris, and Mr. Etienne FOËX, Director of the Central Station for Plant Pathology of Versailles.

Entomological Society of London. — This Society will celebrate its hundredth anniversary on May 3, 1933.

Prof. ALESSANDRO BRIZI, *Segretario generale dell'Istituto, Direttore responsabile.*